CORRECTION

Date API# October 26, 2010 4707700508

State of West Virginia Division of Environmental Protection Section of Oil and Gas Well Operator's Report of Well Work

Farm Name: **Bray Liston 8H** Operator Well No.:

831258

LOCATION

1896'

Quadrangle:

County:

Valley Point **Preston**

Top Hole

District: Latitude:

Elevation:

Pleasant xx ft

South of West of

<u>30</u> " <u>30"</u>

Top Hole Btm Hole Longitude: Latitude:

xx ft xx ft

<u>37</u> ' 79° <u>xx</u> '

Btm Hole

Longitude:

South of xx ft West of

xx "

<u>xx</u> "

Company: Chesapeake Appalachia, LLC

P.O. Box 18496

Oklahoma City, OK 73154-0496

Agent: Eric Gillespie Inspector: Tristan Jenkins Date Permit Issued: 08/03/2009

Date Well work commenced: 11/30/2009 Date Well Work completed: 04/18/2010

Verbal Plugging Permission

Granted on / /

Rotary ⊠ Cable ☐ Rig

Total Depth (ft): 12430' TVD: 7999'

Fresh Water Depth (ft):30' Salt Water Depth (ft.):None

Is coal being mined in area (Yes ☐ No ☒)

Coal Depths (ft): None

15 Duaduaina Farmatian

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill-Up Cu.Ft.
20"	40'	40'	Driven
13 3/8"	560'	560'	614 Cu. Ft.
9 5/8"	1603'	1603'	732 Cu. Ft.
5 1/2"	11683'	11683'	2296 Cu, Ft.
2 3/8"	8070'	8070'	

Open Flow Data

I	Producing	ronnation	Marcellus
	_	Y 1.1 1 0	T71

1,285 Mcf/day

Pay Zone Depth 8,102 ft to 12,430 ft

Gas: Initial Open Flow

Initial Open Flow Oil:

bbl/day

Final Open Flow

xx Mcf/day

Final Open Flow hours хx

bbl/day

Time of Open Flow between Initial and Final Tests Static Rock Pressure

5,199 psig after

hours XX

2nd Producing Formation Marcellus

Gas: Initial Open Flow

Pay Zone Depth xx ft to xx ft Mcf/day

Oil: Initial Open Flow Final Open Flow

Final Open Flow xx Mcf/day Time of Open Flow between Initial and Final Tests hours Static Rock Pressure hours xx psig after $\mathbf{x}\mathbf{x}$

3rd Producing Formation Marcellus Pay Zone Depth xx ft to xx ft

Gas: Initial Open Flow

Mcf/day

Initial Open Flow Oil: Final Open Flow

bbl/day, 1115 bbl/day

bbl/day

bbl/day

xx Mcf/day Time of Open Flow between Initial and Final Tests Static Rock Pressure

xxhours ХX hours

Final Open Flow

xx psig after

Perforated	d Intervals				
1 st Stage	Marcellus	0	holes from	11,683 ft to	12,430 ft
2 nd Stage	Marcellus	20	holes from	11,530 ft to	11,612 ft
3 rd Stage	Marcellus	50	holes from	11,128 ft to	11,450 ft
4th Stage	Marcellus	50	holes from	10,728 ft to	11,050 ft
5 th Stage	Marcellus	50	holes from	10,142 ft to	10,464 ft
6 th Stage	Marcellus	50	holes from	9,702 ft to	10,024 ft
7th Stage	Marcellus	. 50	holes from	9,302 ft to	9,624 ft
8th Stage	Marcellus	50	holes from	8,902 ft to	9,224 ft
9th Stage	Marcellus	50	holes from	8,502 ft to	8,824 ft
10 th Stage	Marcellus	50	holes from	8,102 ft to	8,424 ft

Fracturing / Stimulation

1 st Stage	Ty	pe of Treatment Slickwater	r	
<u> </u>	Total Acid 5,000 Gal of 15			essure 7,545 psi
	Average Rate 85 scf/min	or bpm 🛛		MTP 9,190 psi
	Total Fluid 13,229 bbl	Total Nitrogen 0 scf	Total Sand 311	1,906 lb of 100 mesh
		8		0,511 lb of 40/70
	ISIP 6,308 psi	5 min 4,976 psi		1
2 nd Stage		Type of Treatment Slick	water	
	Total Acid 2,500 Gal of 15			essure 6,350 psi
	Average Rate 90 scf/min	or bpm		MTP 8,946 psi
	Total Fluid 12,313 bbl	Total Nitrogen 0 scf		8,400 lb of 100 mesh
	1041144 12,515 001	Total MacBoll Cool		9,200 lb of 40/70
	ISIP 6,619 psi	5 min 5,732 psi	Total Salid 203	1
3 rd Stage	10H 0,017 psi	Type of Treatment Slick	water	
5 Blage	Total Acid 2,500 Gal of 15			essure 7,392 psi
	Average Rate 65 scf/min	or bpm 🛛		MTP 9,727 psi
	Total Fluid 15,718 bbl	Total Nitrogen 0 scf		2,000 lb of 100 mesh
	Total Fluid 13,718 bbl	Total Nillogell O Sci		3,000 lb of 40/70
	ICID 6 290 pg:	5 min 0 psi	10tai Sailu 200	1
4th Canno	ISIP 6,389 psi	Type of Treatment Slick	otor	
4th Stage	Total A aid 2 500 Cal of 15			000000 8 460 mai
	Total Acid 2,500 Gal of 15	or bpm 🛛		essure 8,469 psi
	Average Rate 72 scf/min			MTP 9,192 psi
	Total Fluid 12,472 bbl	Total Nitrogen 0 scf		0,510 lb of 100 mesh
			Total Sand 283	5,699 lb of 40/70
-th -	ISIP 6,834 psi	5 min 6,342 psi		
5 th Stage		Type of Treatment Slick		2465
	Total Acid 2,500 Gal of 15			essure 8,467 psi
	Average Rate 80 scf/min	or bpm 🛛		MTP 9,119 psi
	Total Fluid 12,307 bbl	Total Nitrogen 0 scf		7,000 lb of 100 mesh
			Total Sand 294	1,000 lb of 40/70
	ISIP 6,656 psi	5 min 5,989 psi		
6 th Stage		Type of Treatment Slick		
	Total Acid 2,500 Gal of 15			essure 6,887 psi
	Average Rate 80 scf/min	or bpm 🛛		MTP 9,008 psi
	Total Fluid 13,287 bbl	Total Nitrogen 0 scf		5,500 lb of 100 mesh
			Total Sand 307	7,200 lb of 40/70
	ISIP 5,983 psi	5 min 4,844 psi		
7 th Stage		Type of Treatment Slick		
	Total Acid 2,500 Gal of 15			essure 6,290 psi
	Average Rate 93 scf/min	or bpm 🛛		MTP 8,975 psi
	Total Fluid 12,504 bbl	Total Nitrogen 0 scf		0,000 lb of 100 mesh
			Total Sand 300	0,000 lb of 40/70
	ISIP 6,004 psi	5 min 5,342 psi		

8th Stage		Type of Treatment Slick	water	
	Total Acid 2,500 Gal of 15	% HCl	Breakdown Pr	essure 3,407 psi
	Average Rate 89 scf/min	or bpm	ATP 8,345 psi	MTP 9,072 psi
	Total Fluid 12,164 bbl	Total Nitrogen 0 scf	Total Sand 300	0,000 lb of 100 mesh
			Total Sand 300	0,000 lb of 40/70
	ISIP 6,454 psi	5 min 5,267 psi		
9th Stage		Type of Treatment Slick	water	
	Total Acid 2,500 Gal of 15	% HCl	Breakdown Pr	essure 7,914 psi
	Average Rate 90 scf/min	or bpm 🛛	ATP 8,414 psi	MTP 8,980 psi
	Total Fluid 12,014 bbl	Total Nitrogen 0 scf	Total Sand 311	1,400 lb of 100 mesh
			Total Sand 310	0,000 lb of 40/70
	ISIP 7,112 psi	5 min 5,990 psi		
10 th Stage		Type of Treatment Slick	water	
	Total Acid 2,500 Gal of 15	% HCl	Breakdown Pr	essure 7,117 psi
	Average Rate 91 scf/min] or bpm 🛛	ATP 8,578 psi	MTP 8,985 psi
	Total Fluid 11,512 bbl	Total Nitrogen 0 scf	Total Sand 330	0,000 lb of 100 mesh
			Total Sand 310),000 lb of 40/70
	ISIP 7.195 psi	5 min 5.986 psi		

77-00508

Well Log

Formation Name	Тор	Bottom	Comments
			All depths in feet KBTVD
Sand and Shale	0	936	
Big Lime	936	1087	
Big Injun	1087	1225	
Shale and trace	1225	2350	
Sand			
Shale	2350	2770	
Silt	2770	2800	
Balltown Sand	2800	2923	
Shale and Silt	2923	3070	
Shale	3070	3400	
Shale and Silt	3400	3760	
Shale, trace Sand	3760	4270	
Shale	4270	4360	
Silt and Shale	4360	4510	
Shale	4510	4690	
Silt and Shale	4690	5500	
Shale	5500	5950	
Shale and Silt	5950	6040	
Shale	6040	6220	
Shale and Silt	6220	6280	
Shale	6280	6430	
Shale and Silt	6430	6460	
Shale	6460	7467	
Geneseo	7467	7525	
Tully	7525'	7577'	
Hamilton	7577'	7914'	
Marcellus	7914'	12430'	

77-00508

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Signed:

CHESAPEAKE APPALACHIA, LLC

By: Marlene Williams, Regulatory Analyst II
Date: 2/3-2013

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	10-1-12
API#:	47-085-09958

Farm name: Emest T.	Anderson			Operator	Well No.: W	<i>1</i> -1630	
LOCATION: Eleva	tion: 1291'			Quadran	gle: Burnt Hou	JSE	
District: L		Feet South of 39	Deg	County:	Ritchie	Sec	

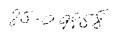
TION: Elevation: 1291'	Quadrangle: _	Burnt House		
District: Union	County: Ritch	ie		
			ec.	
	g. 55 Mir	1. 00 Se	ec.	
Company: Haught Energy Corporation			····	
Address: HC 68 Box 14	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Smithville, WV 26178				<u> </u>
Agent: Warren R. Haught	13-3/8"	33'	33'	To Surface
Inspector: David Cowan	9-5/8"	295'	295'	To Surface
Date Permit Issued: February 16, 2012	7"	2199'	2199'	To Surface
Date Well Work Commenced: 3/20/2012				
Date Well Work Completed: 10/1/2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig V				
Total Vertical Depth (ft): 2,720'				
Total Measured Depth (ft): 2,720'				
Fresh Water Depth (ft.): 60'				
Salt Water Depth (ft.): 1,550'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): NA				
Void(s) encountered (N/Y) Depth(s) None				
EN FLOW DATA (If more than two producing format Producing formation Big Injun Pages: Initial open flow Show MCF/d Oil: Initial open Final open flow 45 MCF/d Final open flow between initial and final tests 12 Static rock Pressure 250 psig (surface pressure)	y zone depth (ft) 1 flow E 0 w B 1 Hour	2226' - 2280' Bbl/d		
Second producing formation Weir Formation Pay : Gas: Initial open flow show MCF/d Oil: Initial open Final open flow 45 MCF/d Final open flow MCF/d Final open flow 45 MCF/d Final open flow		88' - 2556' Bbl/d bl/d	PECENTED OF	2013 e
Time of open flow between initial and final tests 12		s of	1800 - 15 O. E.	Seri Of
Static rock Pressure ²⁵⁰ psig (surface pressure)	/// 11			

I certify under penalty of law that I have personally examined and am familiar with the information submitted withis document and all the attachments and that, based on my inquiry of those individuals immediately responsible for charing the information I believe that the information is true, accurate, and complete.

Signature

Signature

Date



Were core samples taken? Yes	_ NoX	Were cutting	ngs caught during dril	lling? Yes	_ NoX
Were Electrical, Mechanical or Geoph	ysical logs recorded or	n this well? If yes,	please list Gamma Ray, I	Neutron, Density, Induct	ion, Temp., Audio
NOTE: IN THE AREA BELOW FRACTURING OR STIMULATIN DETAILED GEOLOGICAL REC COAL ENCOUNTERED BY THE	G, PHYSICAL CHA	NGE, ETC. 2). T PS AND BOTTO	HE WELL LOG W DMS OF ALL FO	HICH IS A SY	STEMATIC
Perforated Intervals, Fracturing, or Stir	nulating:				
Natural - Open Hole					
					
Plug Back Details Including Plug Type	and Depth(s):				
Formations Encountered: Surface:	Тор	Depth	1	Bottom D	<u>epth</u>
See attached worksheet					

Newlon Clevenger W-1630 API # 47-085-09958

Formation	Тор	Bottom	Remarks
Red Rock & Shale	0	275	
Sand	475	620	
Slate & Shells	620	858	
Red Rock	858	1305	
Dunkard Sand	1305	1324	
Slate & Shells	1324	1402	
Gas Sand	1402	1422	
Slate & Shells	1422	1497	
Gas Sand #2	1497	1505	
Shale	1505	1655	
Long Streak	1655	1745	
Shale	1745	1880	
1st and 2nd Salt Sands	1880	2005	
Shale	2005	2034	
3rd Salt Sand	2034	2042	
Slate & Shells	2042	2101	
Maxton	2101	2141	
Shale	2141	2191	
Big Lime	·2190	2251	
Big Injun Sand	2251	2326	
Slate Break/Shale	2326	2430	
Slate & Shells	2430	2486	
Weir	2486	2556	
Shale	2556	2720	
TD	2720		

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State of West Virginia

DATE:

Department of Environmental Protection

API No: 47-097-03792H

Office of Oil and Gas

Lease No: 63848, 210294, 210295, 210296

Well Operator's Report of Well Work

Farm Name: WOODY, D.J., ET AL	Operator W	ell No. Al	LT8CHS (406	6839)	
LOCATION: Elevation: 2460.74		adrangle: <u>A</u>	Alton 7.5'		
District: Washington	County	: Upshur			
Latitude: 1,596 Feet South of:		7 Min.	30 Sec.		
Longitude: 1,600 Feet West of:	80 Deg. 10	Min.	00 Sec.		
Company: CNX Gas Company LLC					
Company. Civi das Company DEC	Casing and	Used in	Left in well	Cement fill	
	Tubing	drilling		up Cu. Ft.	
Address: P.O. Box 1248		ļ <u>.</u>			
Jane Lew, WV 26378					
Agent: Kent Wright		<u> </u>	<u> </u>	-	
Inspector: Bill Hatfield					į
Date Permit Issued: 05/20/2011					
Date Well Work Commenced: 12/18/2011	20"	40'	40'	250 sks	-
Date Well Work Completed: 02/17/2012 Verbal Plugging:				ļ	-
Verbal Plugging:	13 3/8"	670'	670'	440 sks	
Date Permission granted on:				REC	EIVED
Rotary Cable Rig X			<u> </u>	Office	f Oil & Gas
Total Vertical Depth (feet): 5500				Onice o	i On a dao
Total Measured Depth (feet):					1 0010
Fresh Water Depth (ft.): 40', 130'					1 4 2013
27.4				i	4
Salt Water Depth (ft.): N/A				1.	,
Salt Water Depth (ft.): N/A Is coal being mined in area (N/Y)?: No				TAN / Poc	induced of
Is coal being mined in area (N/Y)?: No		ļ		WV De	partment of
Is coal being mined in area (N/Y)?: No Coal Depths (ft.): N/A Void(s) encountered (N/Y) Depth(s)			E	nvironme	partment of ntal Protection
Is coal being mined in area (N/Y)?: No Coal Depths (ft.): N/A	ION CASING RAN - LE	FT AS OPEN AN ON RECC	HOLE. 02/17/2011 DNVENING THE	PVIFORME 2 - VERTICAL VERTICAL AND	partment of ntal Protection
Is coal being mined in area (N/Y)?: No Coal Depths (ft.): N/A Void(s) encountered (N/Y) Depth(s) OPEN FLOW DATA AND HORIZONTAL DRILLI	ION CASING RAN - LE ING INCOMPLETE. PL N 2014.	FT AS OPEN AN ON RECC	HOLE. 02/17/201: DNVENING THE V	PVIFORME 2 - VERTICAL VERTICAL AND	partment of ntal Protection
Is coal being mined in area (N/Y)?: No Coal Depths (ft.): N/A Void(s) encountered (N/Y) Depth(s) OPEN FLOW DATA AND HORIZONTAL DRILLING IN Producing formation	ION CASING RAN - LE ING INCOMPLETE. PL N 2014.	FT AS OPEN AN ON RECC	HOLE. 02/17/2011 DNVENING THE	PVIFORME 2 - VERTICAL VERTICAL AND	partment of ntal Protection
Is coal being mined in area (N/Y)?: No Coal Depths (ft.): N/A Void(s) encountered (N/Y) Depth(s) OPEN FLOW DATA OPEN FLOW DATA OPEN FLOW DATA HORIZONTAL DRILLING IT Producing formation Gas: Initial open flow Final open flow	ION CASING RAN - LE ING INCOMPLETE. PL N 2014. — MCF/d MCF/d	FT AS OPEN AN ON RECO Puy zo Oil: Initi	HOLE. 02/17/2013 DNVENING THE V	PVIFONME 2 - VERTICAL VERTICAL AND * Bbl/d	partment of ntal Protection
Is coal being mined in area (N/Y)?: No Coal Depths (ft.): N/A Void(s) encountered (N/Y) Depth(s) OPEN FLOW DATA OPEN FLOW DATA OPEN FLOW DATA HORIZONTAL DRILLING IT Producing formation Gas: Initial open flow Final open flow	ION CASING RAN - LE ING INCOMPLETE. PL N 2014. — MCF/d MCF/d	FT AS OPEN AN ON RECO Puy zo Oil: Initi	HOLE. 02/17/2013 DNVENING THE V	PVIFORME 2 - VERTICAL VERTICAL AND	partment of ntal Protection
Is coal being mined in area (N/Y)?: No Coal Depths (ft.): N/A Void(s) encountered (N/Y) Depth(s) OPEN FLOW DATA OPEN FLOW DATA HORIZONTAL DRILLING IN Producing formation Gas: Initial open flow	ION CASING RAN - LE ING INCOMPLETE. PL N 2014. — MCF/d _ MCF/d nal tests	FT AS OPEN AN ON RECO Pay 20 Oil: Initi Fin	HOLE. 02/17/2013 DNVENING THE V	* Bbl/d * Bbl/d # Hours	partment of ntal Protection
Is coal being mined in area (N/Y)?: No Coal Depths (ft.): N/A Void(s) encountered (N/Y) Depth(s) OPEN FLOW DATA O2/12/2013 - NO PRODUCT AND HORIZONTAL DRILLING IN HORIZONTAL DRILL	MCF/d MCF/d MCF/d mal tests psig	Pay zo Oil: Initi Fin G (surface pr Pay zoi Oil: Initi Fine (surface pr (surface pr (surface pr	thole. 02/17/2013 ONVENING THE VIOLENT ON THE VIOL	* Bbl/d * Bbl/d * Bbl/d 12 Hours 12 Hours + Bbl/d * Hours the bl/d * Hours * Bbl/d * Hours	partment of intal Protection
Is coal being mined in area (N/Y)?: No Coal Depths (ft.): N/A Void(s) encountered (N/Y) Depth(s) OPEN FLOW DATA O2/12/2013 - NO PRODUCTA AND HORIZONTAL DRILLING IN HORIZONTAL DRILLING IN Producing formation Gas: Initial open flow Final open flow Time of open flow between initial and fit Static Rock Pressure Second Producing formation Gas: Initial open flow Final open flow Time of open flow between initial and fit Static rock Pressure ** ** COMMINGLED WITH PREVIOUS FORMAT	MCF/d MCF/d MCF/d mal tests psig	Pay zo Oil: Initi Fin G (surface pr Pay zoi Oil: Initi Fine (surface pr (surface pr (surface pr	thole. 02/17/2013 ONVENING THE VIOLENT ON THE VIOL	* Bbl/d * Bbl/d * Bbl/d 12 Hours 12 Hours + Bbl/d * Hours the bl/d * Hours * Bbl/d * Hours	partment of intal Protection

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WELL: ALT8CHS (406839)
Page 2 of 2

Were core samples taken? Yes No X Were cuttings caught during drilling? Yes X No Were Electrical Mechanical, X or Geophysical logs recorded on this well?

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

PERFORATED INTERVALS, FRACTURING, OR STIMULATING:
2/17/2012 NO FRACTURE.
VERTICAL AND HORIZONTAL DRILLING INCOMPLETE.

PLAN ON RECONVENING THE VERTICAL AND HORIZONTAL DRILLING IN 2014.

FORMATIC	NS EN	COUNT	TERED:								
Fill	U	40	Surface Rock	40	110	Sand& Shale	110	155	Simil	155	368
Shale	368	405	Sand/Shale	405	521	Sand/Shale	521	546	Sund/Shale	546	740
Shale	740	810	Sand&Shale	810	1000	RedRock Shale	1000	1055	Sand/Shake	1055	1160
RedReck/Shale	1160	1180	RedRock/Shale/Sand	1180	1350	Sand	1350	1500	RedRock	1500	1570
Sand&Shale	1570	1680	Sand	1680	1810	Sand& Sinde	1810	2580	Shale	2580	2740
Sand&Slade	2740	2860	Sund	2860	2920	Shale	2920	3410	Shale&Sand	.3410	3625
Shale	3625	3790	Sand&Shale	3790	3908	Sand/Shale	3908	4130	Sand/Shale	4130	4352
Sand/Shale	4352	4670	Shale	4670	4920	Shale	4920	5500			

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State of West Virginia

DATE:

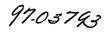
Department of Environmental Protection

API No: 47-097-03793H Lease No: 63848, 210294, 210295, 210296

Office of Oil and Gas

Well Operator's Report of Well Work

Farm Name: WOODY, D.J., ET AL Operator V	Vell No. Al	LT8DHS (406	5841)	
LOCATION: Elevation: 2460.74' Qu	ıadrangle: <u>A</u>	Alton 7.5'		
District: Washington County	: Upshur			
Latitude: 1,575 Feet South of: 38 Deg. 4	7 Min.	30 Sec.		
Longitude: 1,590 Feet West of: 80 Deg. 1	0 Min.	00 Sec.		
Company: CNX Gas Company LLC				
Casing and	Used in	Left in well	Cement fill	
Tubing	drilling	ļ	up Cu. Ft.	
Address: P.O. Box 1248	 	 		
Jane Lew, WV 26378	 			
Agent: Kent Wright	 			
Inspector: Bill Hatfield				
Date Permit Issued: 05/20/2011 Date Well Work Commenced: 11/19/2011 20"	40'	40'	80 sks	İ
Date Well Work Commenced: 11/19/2011 20	+-40		1 00 383	İ
Date Well Work Completed: 02/17/2012 Verbal Plugging: 13 3/8"	667	667'	465 sks	1
Date Permission granted on:		1		!
Rotary Cable Rig X		T	RECEIV	ien.
Total Vertical Depth (feet): 4500				
Total Measured Depth (feet):			fice of Oil	& Gas
Fresh Water Depth (ft.): 40', 130'	i			<u> </u>
Salt Water Depth (ft.): N/A			FEB 1 4 2	ทาง
Is coal being mined in area (N/Y)?: No	_		1 - 2 - 1	.010
Coal Depths (ft.): N/A	1			_
Void(s) encountered (N/Y) Depth(s)		YV	V Departr	nent of
OPEN FLOW DATA 02/12/2013 - NO PRODUCTION CASING RAN - LE AND HORIZONTAL DRILLING INCOMPLETE. P HORIZONTAL DRILLING IN 2014.	EFT AS OPEN I LAN ON RECC	HOLE WY WAN	VERTICAL AND	Protection
Producing formation		ne depth (ft)		
Gas: Initial open flowMCF/d	Oil: Initia	al open flow	* Bbl/d	•
Final open flowMCF/d	Fin	al open flow	*Bbl/d	
Time of open flow between initial and final tests			12 Hours	
Static Rock Pressure psi	g (surface pr	essure) after	12 Hours	
Second Producing formation Gas: Initial open flow * MCF/d Final open flow * MCF/d Time of open flow between initial and final tests Static rock Pressure * psig * COMMINGLED WITH PREVIOUS FORMATIONS I certify under penalty of law that I have personally examined and am familiar with the attachments and that, based on my inquiry of those individuals immediately respont the information is true, accurate, and complete	Oil: Initia Fina 3 (surface pre information su sible for obtain	bmitted on this do	* Bbl/d Bbl/d Hours Hours Hours	
V VILLE VILL				



WR-35 Rev (5-01 Page 2 of	•		WELL:	ALT8DHS (406841)
Were core	e samples taken?	Yes No _	<u>X</u>	Were cuttings caught during drilling? Yes X No
Were	Electrical	_ Mechanical,	<u>X</u> _or	Geophysical logs recorded on this well?
PHYSICAL	. CHANGE, ETC. 2).	THE WELL LOG	WHICH IS	DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND COUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.
PERFOR	ATED INTERVAL	L <mark>S. FRACTUR</mark>	ING, OR	STIMULATING:
2/17/2012	NO FRACTURE.			·
	VERTICAL AND HO	RIZONTAL DRILL	ING INCOM	IPLETE.
	PLAN ON RECONVE	NING THE VERTI	CAL AND F	HORIZONTAL DRILLING IN 2014.

FORMATIONS ENCOUNTERED:

F10	0	40	Surface Rock	40	110	Sand&Shale	110	155	Sand	155	368
Shale	368	405	Sand/Shale	405	521	Sund/Shale	521	546	Sand/Shale	546	740
Shale	740	810	Sand&Shale	810	1000	RedRock Shale	1000	1055	Sand/Shale	1055	1160
RedRock/Shale	1160	1180	RedRock/Shale/Sand	1180	1350	Sand	1350	1500	RedRock	1500	1570
Sand&Shale	1570	1680	Sand	1680	1810	Sand&Shale	1810	2580	Shale	2580	2740
Sand&Shale	2740	2860	Sand	2860	2920	Shale	2920	3410	Shale&Sand	3410	3625
Shale	3625	3790	Sand&Shale	3790	3908	Sund/Shale	3908	4130	Sand/Shale	4130	4352
Sand/Shale	4352										

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State of West Virginia Department of Environmental Protection

DATE:

API No: 47-097-03794H

Lease No: 63848, 210294, 210295, 210296

Office of Oil and Gas Well Operator's Report of Well Work

Farm Name: WOODY, D.J., ET AL	Operator W	/ell No. Al	LT8EHS (400	5957)			
LOCATION: Elevation: 2460.74'	Qu	Quadrangle: Alton 7.5'					
District: Washington	C	County: Upshur					
The second secon	38 Deg. 4'			· · · · · · · · · · · · · · · · · · ·			
	80 Deg. 10						
Longitude: 1,383 Feet West of.	ou Deg	IVIIII.					
Company: CNX Gas Company LLC							
	Casing and	Used in	Left in well	Cement fill			
	Tubing	drilling		up Cu. Ft.			
Address: P.O. Box 1248	• • • • • • • • • • • • • • • • • • •						
Jane Lew, WV 26378			<u> </u>				
Agent: Kent Wright		ļ		l			
Inspector: Bill Hatfield			İ				
Date Permit Issued: 05/20/2011		401	401	50 ob:			
Date Well Work Commenced: 11/01/2011		40'	40'	50 sks			
Date Well Work Completed: 02/17/2012		650'	650'	430 sks			
Verbal Plugging: Date Permission granted on:		1 0.50		420 3K3			
			·	- THE STATE OF THE			
Rotary Cable Rig X Total Vertical Depth (feet): 4500		 		CEIVED			
Total Measured Depth (feet):		 		of Oil & Gas			
Fresh Water Depth (ft.): 40', 130'			Onice	01 01 3 9			
O 1. 191			r	1 4 2012			
ls coal being mined in area (N/Y)?: No			FE	1 4 2013			
Cool Dontha /ft 1. N/A		i					
Void(s) encountered (N/Y) Depth(s)			IAN/D	epartment o			
OPEN FLOW DATA 02/12/2013 - NO PRODUCTION AND HORIZONTAL DRILLING IN HORIZONTAL DRILLING IN Producing formation Gas: Initial open flow	2014.	Pay 20	one depth (ft)al open flow				
Final open flow	MCF/d	Fina	al open flow	*Bbl/d			
Time of open flow between initial and fin	al tests			12 Hours			
Static Rock Pressure		(surface pr	essure) after	12 Hours			
Second Producing formation Gas: Initial open flow Final open flow Time of open flow between initial and final Static rock Pressure #	MCF/d MCF/d al testspsig	Oil: Initia Fina	ne depth (ft) ll open flow ll open flow essure) after	* Bbl/d * Bbl/d * Hours * Hours			
* COMMINGLED WITH PREVIOUS FORMATI I certify under penalty of law that I have personally examined and the attachments and that, based on my inquiry of those prelyidus	id am familiar with the i	sible for obtain	ing the information	ument and all I believe that			
the information is true, accurate, and complete	~* K U	7	14-13				
Signature	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Date				

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Rev (5-01) WELL: ALT8EHS (406957)

Page 2 of 2

Were core samples taken? Yes No X Were cuttings caught during drilling? Yes X No Were Lectrical Mechanical, X or Geophysical logs recorded on this well?

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

PERFORATED INTERVALS, FRACTURING, OR STIMULATING:

2/17/2012 NO FRACTURE.

VERTICAL AND HORIZONTAL DRILLING INCOMPLETE.

PLAN ON RECONVENING THE VERTICAL AND HORIZONTAL DRILLING IN 2014.

FORMATIONS ENCOUNTERED:

f i ll	U	40	Surface Rock	40	110	Sand&Shale	110	155	Sand	155	368
Shale	368	405	Sand/Shale	405	521	Sand/Shale	521	546	Sand/Shale	546	740
Shale	740	810	Sand&Shale	810	1000	RedRock Shale	1000	1055	Sand/Shale	1055	1160
RedRock/Shale	1160	1180	RedRock/Shale/Sand	1180	1350	Sand	1350	1500	RedRock	1500	1570
Sand& Shale	1570	1680	Sand	1680	1810	Sand&Shale	1810	2580	Shale	2580	2740
Sand&Shale	2740	2860	Sand	2860	2920	Shale	2920	3410	Shale&Sand	3410	3625
Shale	3625	3790	Sand&Shale	3790	3908	Sand/Shale	3908	4130	Sand/Shale	4130	4352
Sand/Shale	4352										

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State of West Virginia Department of Environmental Protection

DATE:

API No: 47-097-03795H

Lease No: 63848, 210294, 210295, 210296

Office of Oil and Gas Well Operator's Report of Well Work

operator s resp					
Farm Name: WOODY, D.J., ET AL			LT8FHS (407	7063)	-
LOCATION: Elevation: 2460.74'	Qu	adrangle: <u>A</u>	Alton 7.5'		
District: Washington	County	: Upshur			
Latitude: 1,551 Feet South of:	38 Deg. 4'	7 Min.	30 Sec.		
The state of the s	80 Deg. 10		00 Sec.		
Company: CNX Gas Company LLC					
Company. Civi dus Company LLC	Casing and		Left in well	Cement fill	4
	Tubing	drilling		up Cu. Ft.	
Address: P.O. Box 1248					1
Jane Lew, WV 26378					
Agent: Kent Wright				ļ	! !
Inspector: Bill Hatfield		<u> </u>			i
Date Permit Issued: 05/20/2011 Date Well Work Commenced: 10/17/2011	20"	40'	40'	60 sks	
Date Well Work Completed: 02/17/2012		+0	1	00 383	
Verbal Plugging:	13 3/8"	690'	690,	425 sks	
Date Permission granted on:				REC	CEIVED
Rotary Cable Rig X	· · · · · · · · · · · · · · · · · · ·			Office	of Oil & Gas
Total Vertical Depth (feet): 4500				Oliver	
Total Measured Depth (feet):	•			ניי	1 4 2013
Fresh Water Depth (ft.): 40', 130' Salt Water Depth (ft.): N/A		ļ		FED	1 1 1010
Is coal being mined in area (N/Y)?: No			 		
				1 0 16 H	40 400 amin a
				WY De	partment of
Coal Depths (ft.): N/A Void(s) encountered (N/Y) Depth(s)				nvironma	pariment of
Coal Depths (ft.): N/A	CASING RAN - LEI	T AS OPEN I	HOLE. 02/17/2012	NVIRONMA - VERTICAL	parment of Intal Brotect
Coal Depths (ft.): N/A Void(s) encountered (N/Y) Depth(s) OPEN FLOW DATA 02/12/2013 - NO PRODUCTION AND HORIZONTAL DRILLING HORIZONTAL DRILLING IN 20	CASING RAN - LEI INCOMPLETE. PL	AN ON RECO	HOLE. 02/17/2012	AVITODIMA - VERTICAL ERTICAL AND	parment of Intal Orotoot
Coal Depths (ft.): N/A Void(s) encountered (N/Y) Depth(s) OPEN FLOW DATA 02/12/2013 - NO PRODUCTION AND HORIZONTAL DRILLING IN 20 Producing formation	CASING RAN - LEI INCOMPLETE. PL	AN ON RECC	HOLE. 02/17/2012 INVENING THE V	AVITODIMA - VERTICAL ERTICAL AND	parment of Intal Drotact
Coal Depths (ft.): N/A Void(s) encountered (N/Y) Depth(s) OPEN FLOW DATA 02/12/2013 - NO PRODUCTION AND HORIZONTAL DRILLING HORIZONTAL DRILLING IN 20 Producing formation Gas: Initial open flow Final open flow	CASING RAN - LEI INCOMPLETE. PL 114. ACF/d ACF/d	AN ON RECO Pay zo Oil: Initia	ne depth (ft) al open flow	PVICAL - VERTICAL ERTICAL AND * Bbi/d	parment of Intal Brotact
Coal Depths (ft.): N/A Void(s) encountered (N/Y) Depth(s) OPEN FLOW DATA 02/12/2013 - NO PRODUCTION AND HORIZONTAL DRILLING IN 20 Producing formation	CASING RAN - LEI INCOMPLETE. PL 114. ACF/d ACF/d	AN ON RECO Pay zo Oil: Initia	ne depth (ft) al open flow	PVICAL AND	parment of Intal Brotect
Coal Depths (ft.): N/A Void(s) encountered (N/Y) Depth(s) OPEN FLOW DATA 02/12/2013 - NO PRODUCTION AND HORIZONTAL DRILLING HORIZONTAL DRILLING IN 20 Producing formation Gas: Initial open flow Final open flow	CASING RAN - LEI INCOMPLETE. PL 114. MCF/d MCF/d tests	AN ON RECO	ne depth (ft) al open flow	* Bbl/d	parment of Intal Brotact
Coal Depths (ft.): N/A Void(s) encountered (N/Y) Depth(s) OPEN FLOW DATA O2/12/2013 - NO PRODUCTION AND HORIZONTAL DRILLING IN 20 Producing formation Gas: Initial open flow Final open flow Time of open flow between initial and final Static Rock Pressure Second Producing formation Gas: Initial open flow ** Second Producing formation Gas: Initial open flow **	CASING RAN - LEI INCOMPLETE. PL 114. ACF/d ACF/d tests	Pay zo Oil: Initia Fina (surface pro Oil: Initia Fina (surface pro	ne depth (ft) al open flow essure) after e depth (ft) l open flow essure) after essure) after essure) after essure) after	* Bbl/d * Bbl/d 12 Hours 12 Hours * Bbl/d * Hours # Bbl/d # Hours	parment of antal Brotect



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Rev (5-01) WELL: ALT8FHS (407063)
Page 2 of 2

Were core samples taken? Yes No X Were cuttings caught during drilling? Yes X No _____.

Were ____ Electrical ____ Mechanical, X or Geophysical logs recorded on this well?

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

PERFORATED INTERVALS, FRACTURING, OR STIMULATING:

2/17/2012 NO FRACTURE.

VERTICAL AND HORIZONTAL DRILLING INCOMPLETE.

PLAN ON RECONVENING THE VERTICAL AND HORIZONTAL DRILLING IN 2014.

FORMATIONS ENCOUNTERED:

1711	0	40	Surface Rock	40	110	Sand&Shale	110	155	Sand	155	368
Shale	368	405	Sand/Shale	405	521	Sand/Shale	521	546	Sand/Shale	546	740
Shale	740	810	Sand&Shule	810	1000	RedRock Shale	1000	1055	Sund/Shale	1055	1160
RedRock/Shale	1160	1180	RedRock/Shale/Sand	1180	1350	Sand	1350	1500	RedRock	1500	1570
Sand&Shale	1570	1680	Sand	1680	1810	Sand&Shale	1810	2580	Shale	2580	2740
Sand&Shale	2740	2860	Sand	2860	2920	Shale	2920	3410	Shale&Sand	3410	3625
Shale	3625	3790	Sand&Shale	3790	3908	Sand/Shale	3908	4130	Sand/Shale	4130	4352
Sand/Shale	4352										

Date: January 27, 2011 API # 47-103-02458

State of West Virginia **Division of Environmental Protection** Section of Oil and Gas Well Operator's Report of Well Work

Farm Name:

Hohman HBP S 1H

Operator Well No.: 627376

LOCATION

Elevation:

1494' **Proctor** Quadrangle: County:

Wileyville

District: Latitude:

11320 ft

South of

30"

Wetzel

42 39°

Longitude:

9990 ft

West of

40 80°

00"

Company: Chesapeake Appalachia, L.L.C.

P.O. Box 18496

OKC, OK 73154-0496

Agent: Eric Gillespie Inspector: David Scranage Date Permit Issued: 1/25/2010

Date Well work commenced: 2/17/2010 Date Well Work completed: 3/21/2010

Verbal Plugging Permission

Granted on / /

Rotary
☐ Cable ☐ Rig

Total Depth (ft): 12,153' TVD (ft): 7115'

Fresh Water Depth (ft): 438' Salt Water Depth (ft.):NA

Is coal being mined in area (Yes No 🖂)

Coal Depths (ft): 230' & 1280'

Was this well logged and plugged back?

Yes No X if yes depth cement plug set ____

Casing & Tubing	Used in Drilling	Left in Well	Cement Fill-Up Cu.Ft.
20"	28,	58'	Driven
13 3/8"	1442'	1442'	1546 Cu. Ft.
9 5/8"	2785'	2785'	805 Cu. Ft.
5 1/2"	12,153	12,153	2760 Cu. Ft.

Open Flow Data

In

Line

1st Producing Formation

Gas: Initial Open Flow

2,195 Mcf/day

Pay Zone Depth 7,685 ft to 12,007 ft Oil: Initial Open Flow

bbl/dav

Final Open Flow

N/A Mcf/day

Final Open Flow

Time of Open Flow between Initial and Final Tests

hours

bbl/day

Static Rock Pressure

4,625 psig after N/A

hours

2nd Producing Formation

Pay Zone Depth

ft to ft

Gas: Initial Open Flow

N/A Mcf/day

Initial Open Flow Oil:

bbl/day

Final Open Flow

N/A Mcf/day

Final Open Flow

bbl/day

Time of Open Flow between Initial and Final Tests

hours

Static Rock Pressure

N/A psig after

hours

3rd Producing Formation

N/A Mcf/day

Pay Zone Depth

ft to

bbl/day

Gas: Initial Open Flow Final Open Flow

N/A Mcf/day

Initial Open Flow Oil: Final Open Flow

bbl/day

Time of Open Flow between Initial and Final Tests

hours

Static Rock Pressure

N/A psig after

hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

103.02458

Perforated Intervals

1 st Stage	Marcellus	50	holes from	11,685 ft to	12,007 ft
2 nd Stage	Marcellus	50	holes from	11,285 ft to	11,607 ft
3 rd Stage	Marcellus	50	holes from	10,885 ft to	11,207 ft
4th Stage	Marcellus	50	holes from	10,485 ft to	10,807 ft
5 th Stage	Marcellus	50	holes from	10,085 ft to	10,407 ft
6th Stage	Marcellus	50	holes from	9,685 ft to	10,007 ft
7 th Stage	Marcellus	50	holes from	9,285 ft to	9,607 ft
8th Stage	Marcellus	50	holes from	8,885 ft to	9,207 ft
9th Stage	Marcellus	50	holes from	8,485 ft to	8,807 ft
10 th Stage	Marcellus	50	holes from	8,085 ft to	8,407 ft
11 th Stage	Marcellus	50	holes from	7,685 ft to	8,007 ft

Fracturing / Stimulation

1st Stage	Ту	pe of Treatment Slickwater	r		
	Total Acid 5,000 Gal of 15		Breakdown Pr	essure 5,493 psi	
	Average Rate 79 scf/min	or bpm 🛛		MTP 8,627 psi	
	Total Fluid 12,233 bbl	Total Nitrogen 0 scf		9,000 lb of 100 mesh	
				5,000 lb of 40/70	
	ISIP 3,915 psi	5 min 3,197 psi			
2 nd Stage		Type of Treatment Slick	water		
	Total Acid 2,500 Gal of 15			essure 5,404 psi	
	Average Rate 86 scf/min	or bpm		MTP 8,906 psi	
	Total Fluid 10,484 bbl	Total Nitrogen 0 scf		0,627 lb of 100 mesh	
		l communication		2,132 lb of 40/70	
	ISIP 4,506 psi	5 min 3,619 psi	1	 	
3 rd Stage	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Type of Treatment Slick	water		
	Total Acid 2,500 Gal of 15	,	essure 5,700 psi		
	Average Rate 88 scf/min	or bpm 🛛		MTP 8,906 psi	
	Total Fluid 10,706 bbl	Total Nitrogen 0 scf		9,710 lb of 100 mesh	
	10411144 10,700 001	Town Madgen o ser		5,590 lb of 40/70	
	ISIP 4,328 psi	5 min 3,547 psi	1 Total State 54.	1	
4 th Stage	10H 4,320 psi	Type of Treatment Slick	water		
- Glage	Total Acid 2,500 Gal of 15			essure 4,794 psi	
	Average Rate 87 scf/min	or bpm		MTP 8,479 psi	
	Total Fluid 10,885 bbl	Total Nitrogen 0 scf		6,150 lb of 100 mesh	
	10tai i idid 10,885 001	Total Middgell V Sci		7,594 lb of 40/70	
	ISIP 4,743 psi	5 min 3,830 psi	10tai Sailu 54	1,334 10 01 40/70	
5th Stage	131F 4,743 psi	Type of Treatment Slick	water		
3 Stage	Total Acid 2,500 Gal of 15		essure 6,040 psi		
		or bpm 🛛			
	Average Rate 88 scf/min	J or opm 🔼		MTP 9,172 psi	
	Total Fluid 10,453 bbl	Total Nitrogen 0 scf		3,074 lb of 100 mesh	
	10m 4 004 :	6 . 2610 .	1 otal Sand 340	5,204 lb of 40/70	
eth o	ISIP 4,294 psi	5 min 3,510 psi			
6 th Stage		Type of Treatment Slick		5.556 :	
	Total Acid 2,500 Gal of 15			essure 5,576 psi	
	Average Rate 83 scf/min	or bpm 🛛		MTP 8,042 psi	
	Total Fluid 10,107 bbl	Total Nitrogen 0 scf		1,561 lb of 100 mesh	
			Total Sand 34	7,729 lb of 40/70	
•	ISIP 4,388 psi	5 min 3,994 psi			
7 th Stage		Type of Treatment Slick		5.060	
	Total Acid 2,500 Gal of 15			essure 5,268 psi	
	Average Rate 85 scf/min	or bpm		psi MTP 8,223 psi	
	Total Fluid 10,232 bbl	Total Nitrogen 0 scf		3,157 lb of 100 mesh	
			Total Sand 343,786 lb of 40/70		
	ISIP 4,318 psi	5 min 3,680 psi			

8th Stage	T	Type of Treatment Slick	water	T		
	Total Acid 2,500 Gal of 15			essure 4,920 psi		
	Average Rate 82 scf/min			MTP 7,843 psi		
	Total Fluid 9,858 bbl	Total Nitrogen 0 scf		1,612 lb of 100 mesh		
				4,051 lb of 40/70		
	ISIP 4,409 psi	5 min 3,549 psi	•			
9 th Stage		Type of Treatment Slick	water			
	Total Acid 2,500 Gal of 15	% HCl	Breakdown Pro	essure 5,928 psi		
	Average Rate 69 scf/min	or bpm 🛛		MTP 9,450 psi		
	Total Fluid 18,503 bbl	Total Nitrogen 0 scf	Total Sand 143	3,549 lb of 100 mesh		
			Total Sand 340	0,423 lb of 40/70		
	ISIP 4,271 psi	5 min 3,279 psi				
10 th Stage		Type of Treatment Slick	water			
	Total Acid 2,500 Gal of 15	% HCl	Breakdown Pressure 5,325 psi			
	Average Rate 86 scf/min	or bpm 🛛	ATP 6,545 psi	i MTP 9,985 psi		
	Total Fluid 10,069 bbl	Total Nitrogen 0 scf	Total Sand 140	0,527 lb of 100 mesh		
			Total Sand 344	4,344 lb of 40/70		
	ISIP 5,378 psi	5 min 3,684 psi				
11th Stage		Type of Treatment Slick	water			
	Total Acid 2,500 Gal of 15		Breakdown Pro	essure 5,337 psi		
	Average Rate 90 scf/min	or bpm 🛛		MTP 7,909 psi		
	Total Fluid 9,676 bbl	Total Nitrogen 0 scf		9,678 lb of 100 mesh		
			Total Sand 344	4,047 lb of 40/70		
	ISIP 4,684 psi	5 min 3,642 psi				

103.02458

Well Log

Formation Name	Тор	Bottom	Comments
SH/SS	0	560	Mud logger
SH/SILT	560	620	Mud logger
SH/SS	620	680	Mud logger
SH	680	730	Mud logger
SH/SS	730	860	Mud logger
SHALE	860	950	Mud logger
SH/SS	950	980	Mud logger
SH/SILT/SS	980	1040	Mud logger
SHALE	1040	1100	Mud logger
SH/SILT	1100	1130	Mud logger
SH/SILT/LS	1130	1160	Mud logger
SH/LS	1160	1220	Mud logger
SH/SILT/LS	1220	1250	Mud logger
SH/SILT	1250	1291	Mud logger
Pittsburgh Coal	1291	1301	Mud logger
SH/SILT	1301	1370	Mud logger
SH/SS	1370	1430	Mud logger
SH	1430	1530	Mud logger
SH/LIME	1530	1590	Mud logger
SH	1590	1680	Mud logger
SH/SS	1680	1770	Mud logger
SH/SS/COAL	1770	1800	Mud logger
SH/SS	1800	1830	Mud logger
SS/trace shale	1830	1890	Mud logger
SH/SS	1890	1995	Mud logger
Salt Sands	1995	2203	Mud logger
Maxton	2203	2378	Mud logger
Big Lime	2378	2408	Mud logger
Big Injun	2408	2681	Mud logger
Geneseo	7038	7053	MWD GR
Tully	7053	7086	MWD GR
Hamilton	7033	7425	MWD GR
Marcellus	7425	12153'	MWD GR
iviarcellus	1423	12133	MMDGK
	+		
	ı	L	

Signed:	Marloy (Cellians
J	CHESAPEAKE APPALACHIA, LLC

By: Marlene Williams - Regulatory Analyst II
Date: 2-13-13-13

Date: January 27, 2011 API # 47-103-02459

State of West Virginia **Division of Environmental Protection** Section of Oil and Gas Well Operator's Report of Well Work

Farm Name:

Hohman HBP S 3H

Operator Well No.: 627377

LOCATION

Elevation: 1494' Quadrangle: County:

Wileyville

District:

Proctor

South of

424 30" Wetzel

Latitude:

11,300 ft

39°

Longitude:

10.00 ft

West of

80° 404

00"

Company: Chesapeake Appalachia, L.L.C.

P.O. Box 18496 OKC, OK 73154-0496

Agent: Eric Gillespie Inspector: David Scranage Date Permit Issued: 6/4/2009

Date Well work commenced: 3/27/2010. Date Well Work completed: 8/2/2010

Verbal Plugging Permission

Granted on / /

Rotary
☐ Cable ☐ Rig

Total Depth (ft): 12,480' TVD (ft): 7120'

Fresh Water Depth (ft): 438' Salt Water Depth (ft.):NA

Is coal being mined in area (Yes No 🗵)

Coal Depths (ft): 230' & 1280'

Was this well logged and plugged back?

Yes No X if yes depth cement plug set

Casing & Tubing	Used in	Left in Well	Cement Fill-Up Cu.Ft.
20"	Drilling 40	40'	Driven
13 3/8"	1448'	1448'	1522 Cu. Ft.
9 5/8"	2783'	2783'	1198 Cu. Ft.
5 ½"	12,473'	12,473'	1808 Cu. Ft.
	•••		

Open Flow Data

1st Producing Formation

Pay Zone Depth 7,398 ft to 12,341 ft

Gas: Initial Open Flow

3,371 Mcf/day

Oil: Initial Open Flow

bbl/day

Final Open Flow

N/A Mcf/day

Final Open Flow

bbl/day

Time of Open Flow between Initial and Final Tests

hours

Static Rock Pressure

4,628 psig after N/A

hours

2nd Producing Formation

Pay Zone Depth

In Line

> ft to ft

Gas: Initial Open Flow N/A Mcf/day N/A Mcf/day Oil: Initial Open Flow

bbl/day bbl/day

Final Open Flow Time of Open Flow between Initial and Final Tests Static Rock Pressure

Final Open Flow hours hours

3rd Producing Formation

Pay Zone Depth

ft to

bbl/day

Gas: Initial Open Flow

N/A Mcf/day

Initial Open Flow Oil:

Final Open Flow

N/A Mcf/day

N/A psig after

Final Open Flow

bbl/day

Time of Open Flow between Initial and Final Tests Static Rock Pressure

N/A psig after

hours hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Perforated	Intervals
------------	-----------

1 st Stage	Marcellus	50	holes from	12,039 ft to	12,341 ft
2 nd Stage	Marcellus	50	holes from	11,664 ft to	11,966 ft
3 rd Stage	Marcellus	50	holes from	11,289 ft to	11,591 ft
4th Stage	Marcellus	50	holes from	10,914 ft to	11,216 ft
5th Stage	Marcellus	50	holes from	10,539 ft to	10,841 ft
6th Stage	Marcellus	50	holes from	10,160 ft to	10,466 ft
7th Stage	Marcellus	50	holes from	9,787 ft to	10,091 ft
8th Stage	Marcellus	50	holes from	8,898 ft to	9,195 ft
9th Stage	Marcellus	50	holes from	8,523 ft to	8,823 ft
10 th Stage	Marcellus	50	holes from	8,148 ft to	8,450 ft
11 th Stage	Marcellus	50	holes from	7,768 ft to	8,075 ft
12th Stage	Marcellus	50	holes from	7,398 ft to	7,700 ft

Fracturing / Stimulation

1 st Stage	Ту			
	Total Acid 5,000 Gal of 15	Breakdown Pressure 5,303 psi		
	Average Rate 85 scf/min	or bpm 🛛		MTP 8,653 psi
	Total Fluid 11,448 bbl	Total Nitrogen 0 scf	Total Sand 15	1,000 lb of 100 mesh
		<u> </u>		3,000 lb of 40/70
	ISIP 4,313 psi	5 min 3,660 psi		Í
2 nd Stage		Type of Treatment Slickw	ater	
	Total Acid 2,500 Gal of 15			essure 5,644 psi
	Average Rate 88 scf/min	or bpm 🛛	ATP 6,868 psi MTP 8,136 psi	
	Total Fluid 10,458 bbl	Total Nitrogen 0 scf		0,880 lb of 100 mesh
				4,174 lb of 40/70
	ISIP 4,286 psi	5 min 3,529 psi	<u> </u>	<u> </u>
3 rd Stage		Type of Treatment Slickw	ater	
	Total Acid 2,500 Gal of 15			essure 5,525 psi
	Average Rate 87 scf/min	or bpm 🛛		MTP 8,702 psi
	Total Fluid 10,642 bbl	Total Nitrogen 0 scf		8,318 lb of 100 mesh
		,		6,971 lb of 40/70
	ISIP 4,595 psi	5 min 3,675 psi		
4th Stage	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Type of Treatment Slickw	ater	
	Total Acid 2,500 Gal of 15		Breakdown Pressure 5,745 psi	
	Average Rate 87 scf/min	or bpm	ATP 6,648 psi MTP 8,800 psi	
	Total Fluid 10,604 bbl	Total Nitrogen 0 scf		3,777 lb of 100 mesh
				8,382 lb of 40/70
	ISIP 4,621 psi	5 min 3,658 psi	1 10000	1
5th Stage	1011 13021 501	Type of Treatment Slickw	ater	
J Junge	Total Acid 2,500 Gal of 15			essure 5,870 psi
	Average Rate 79 scf/min	or bpm 🛛		MTP 8,946 psi
	Total Fluid 11,294 bbl	Total Nitrogen 0 scf		4,134 lb of 100 mesh
	1041144113251001	10001111208011 0 001		2,237 lb of 40/70
	ISIP 4,485 psi	5 min 3,540 psi	1 1000 0000	1
6 th Stage	1511 1,105 ps.	Type of Treatment Slickw	rater	
U Diago	Total Acid 2,500 Gal of 15			essure 5,814 psi
	Average Rate 81 scf/min	or bpm 🛛	ATP 6,576 psi MTP 8,890 psi	
	Total Fluid 10,232 bbl	Total Nitrogen 0 scf	Total Sand 145,404 lb of 100 mesh	
			Total Sand 341,961 lb of 40/70	
	ISIP 4,405 psi	5 min 3,622 psi		
7th Stage		Type of Treatment Slickw	ater	-
	Total Acid 2,500 Gal of 15		Breakdown Pressure 5,863 psi	
	Average Rate 84 scf/min	or bpm 🛛		MTP 8,450 psi
	Total Fluid 10,165 bbl	Total Nitrogen 0 scf		2,809 lb of 100 mesh
				0,487 lb of 40/70
	ISIP 4,317 psi	5 min 3,577 psi		Ī

103.02459

8 th Stage		Type of Treatment Slickwater		
	Total Acid 2,500 Gal of 15		Breakdown Pro	essure 5,829 psi
	Average Rate 89 scf/min	or bpm 🛛		MTP 8,527 psi
	Total Fluid 10,038 bbl	Total Nitrogen 0 scf		2,242 lb of 100 mesh
			Total Sand 341	,070 lb of 40/70
-	ISIP 4,210 psi	5 min 3,522 psi		
9 th Stage		Type of Treatment Slick	water	
	Total Acid 2,500 Gal of 15	% HCl	Breakdown Pro	essure 6,127 psi
	Average Rate 90 scf/min	or bpm 🛛		MTP 8,462 psi
	Total Fluid 9,886 bbl	Total Nitrogen 0 scf		,660 lb of 100 mesh
			Total Sand 337	7,904 lb of 40/70
-	ISIP 4,558 psi	5 min 3,503 psi		
10 th Stage		Type of Treatment Slickw		
***	Total Acid 2,500 Gal of 15	% HCl	Breakdown Pro	essure 6,025 psi
	Average Rate 79 scf/min	or bpm 🛛 ATP 6,610 psi		MTP 8,235 psi
	Total Fluid 11,284 bbl),683 lb of 100 mesh
			Total Sand 342	2,468 lb of 40/70
	ISIP 4,668 psi	5 min 3,573 psi		
11th Stage		Type of Treatment Slick	water	
	Total Acid 2,500 Gal of 15	% HCl	Breakdown Pro	essure 6,408 psi
	Average Rate 80 scf/min	or bpm 🛛	ATP 7,119 psi	MTP 8,085 psi
	Total Fluid 12,648 bbl	Total Nitrogen 0 scf	Total Sand 153	3,728 lb of 100 mesh
			Total Sand 339	9,972 lb of 40/70
	ISIP 4,275 psi	5 min 3,383 psi		
12 th Stage		Type of Treatment Slick	water	
	Total Acid 2,500 Gal of 15	% HCl	Breakdown Pro	essure 5,840 psi
	Average Rate 88 scf/min	or bpm 🛛	ATP 6,984 psi	MTP 8,785 psi
	Total Fluid 10,231 bbl	Total Nitrogen 0 scf	Total Sand 156	5,243 lb of 100 mesh
			Total Sand 347	7,361 lb of 40/70
	ISIP 4,722 psi	5 min 3,428 psi	•	

Well Log

Well Log			
Formation Name	Тор	Bottom	Comments
SH/SS	0	560	1H/Mud logger
SH/SILT	560	620	1H/Mud logger
SH/SS	620	680	1H/Mud logger
SH	680	730	1H/Mud logger
SH/SS	730	860	1H/Mud logger
SHALE	860	950	1H/Mud logger
SH/SS	950	980	1H/Mud logger
SH/SILT/SS	980	1040	1H/Mud logger
SHALE	1040	1100	1H/Mud logger
SH/SILT	1100	1130	1H/Mud logger
SH/SILT/LS	1130	1160	1H/Mud logger
SH/LS	1160	1220	1H/Mud logger
SH/SILT/LS	1220	1250	1H/Mud logger
SH/SILT	1250	1291	
			1H/Mud logger
Pittsburgh Coal	1291	1301	1H/Mud logger
SH/SILT	1301	1370	1H/Mud logger
SH/SS	1370	1430	1H/Mud logger
SH/LS	1430	1610	Mud logger
SH	1610	1640	Mud logger
SH/SS/LS	1640	1790	Mud logger
SS	1790	1850	Mud logger
SH	1850	1940	Mud logger
Salt Sands	1940	2000	Mud logger
SH	2000	2060	Mud logger
SS	2060	2090	Mud logger
SH	2090	2190	Mud logger
Maxton	2190	2240	OHL
SH/SS/SILT	2240	2300	Mud logger
SH/LS	2300	2340	Mud logger
SS	2340	2358	Mud logger
Big Lime	2358	2390	Mud logger
SS	2390	2406	Mud logger
Big Injun	2406	2674	Mud logger
SH/SILT	2674	3278	Mud logger
Gordon Sand	3278	3290	Mud logger
SH/SILT	3290	4820	Mud logger
SH	4820	5090	Mud logger
SH/SILT	5090	7055	Mud logger
Geneseo	7055	7076	MWD GR
Tully	7076	7176	MWD GR
Marcellus	7176	12480	MWD GR
Marcenus	/1/0	12400	MWDGK
		 	
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Signed:	Malley William.2	
	CHESAPEAKE APPALACHIA, LLC	
D Marlana V	/:lliama Damiletomi Anglijet II	

By: Marlene Williams, Regulatory Analyst II
Date: 2-13-3-15

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	02/06/2013
API#:	47-25-00038

Farm name: Plum Creek Timberlands, LP	Operator Well No.: PCSF 1-1H				
LOCATION: Elevation: 3.569	Quadrangle: Fork Mountain				
District: Falling Springs Latitude: 8,851 Fect South of 38 Deg.	County: Green	abrier 30 Sec.			
	25 Min.				
Company: BRC Operating Company, LLC					
Address: 200 Crescent Court, Suite 200	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.	
Dallas, TX 75201	20"	100'	98'		
Agent: Marc A. Monteleone	13.375"	1,541'	1,539'	1,302 Lead / 180 Tail	
Inspector: Gary Kennedy					
Date Permit Issued: 7/14/11					
Date Well Work Commenced: 10/14/11					
Date Well Work Completed: 11/14/11	Cement plug		1,236' - 2,267'	553	
Verbal Plugging: Gary Kennedy	Cement plug		13.375" from 2' -98'	78	
Date Permission granted on: 11/7/11 Plugging Pe	mit issued 4	10/12.			
Rotary					
Total Vertical Depth (ft): 4,886					
Total Measured Depth (ft): 4,886					
Fresh Water Depth (ft.): 1,500					
Salt Water Depth (ft.): 2,350					
Is coal being mined in area (N/Y)? N					
Coal Depths (ft.): 610					
Void(s) encountered (N/Y) Depth(s) N/A					
OPEN FLOW DATA (If more than two producing formation Producing formation Not Applicable Pay 2	zone depth (ft)_		ita on separate sh	neet)	
Gas: Initial open flowMCF/d Oil: Initial open fl	lowBl	61/d			
Final open flow MCF/d Final open flow	vBb Hours	11/0	, ide.		
Static rock Pressurepsig (surface pressure) af	terHou	rs	THE DO		
	1 .1 .65	4	PECKIN OF		
Second producing formation Pay zo	ne depth (It) low Ri	` bl/d	80°	013	
Final open flow MCF/d Final open flow	v Bb	ol/d office		CANON OF THE PROPERTY OF THE P	
Time of open flow between initial and final tests	Hours	6 39	KED.	ALTONO PORTONIA	
Static rock Pressurepsig (surface pressure) at	fterHou	rs	Q ₆₇₇	Ologia A.	
Final open flowMCF/d Final open flow Time of open flow between initial and final testsStatic rock Pressurepsig (surface pressure) af Second producing formationPay zo: Gas: Initial open flowMCF/d Oil: Initial open flowMCF/d Final open flowMCF/d Final open flow Time of open flow between initial and final testsStatic rock Pressurepsig (surface pressure) af I certify under penalty of law that I have personally examined all the attachments and that, based on my inquiry of those indit that the information is true, accurate, and complete.	and am familiar viduals immedia	r with the informately responsible	nations ubunified e for optioning the	on this document and he information I believe	
AL.		ارد	1/2/2		
Signature	.,,,	_	72013 Date		

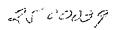
Signature

Were core samples taken? Yes X	No Were cu	ttings caught during drilling? Yes_X No		
Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list				
NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.				
Perforated Intervals, Fracturing, or Stimu	lating:			
N/A				
Plug Back Details Including Plug Type at	nd Depth(s): Cement plug 13	3/8" casing and 12.25" open hole,		
from 1,236' to 2,267'/ 98 bbls.	Cement plug 13 3/8" ca	sing, from 2' to 98' / 14 bbls.		
Formations Encountered: Surface:	Top Depth	/ Bottom Depth		
Ravencliff Sandstone	1,584	1,604		
Lower Maxon Sandstone	1,908	1,928		
Greenbrier Limestone	2,010	2,060		
Big Lime Limestone	2,192	2,564		
Injun Sandstone	2,564	2,596		
Squaw Shale	2,596	2,762		
Weir Sandstone	2,762	3,183		
Berea Sandstone	3,183	3,269		
Gordon Sandstone	3,269	3,301		
Huron Shale	4,278			

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	02/06/2013
API#:	47-25-00039

Farm name: Plum Creek Timberlands, LP	Operator Well	No.: PCSF 1-2H	i	
LOCATION: Elevation: 3,578	Quadrangle: _F	Fork Mountain		
District: Falling Springs	County: Green	nbrier		
Latitude: 8,862 Feet South of 38 Deg.		. 30 Sec		··
Longitude 11,977 Feet West of 80 Deg.				
Company: BRC Operating Company, LLC		_		
Address: 200 Crescent Court, Suite 200	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Dallas, TX 75201	20"	130'	130'	207
Agent: Marc A. Monteleone	13 3/8"	2,233'	2,223'	1,521 Lead/1,021 Tail
Inspector: Gary Kennedy	9 5/8"	6,457	6,457	1,796 Lead/746 Tail
Date Permit Issued: 7/14/11				
Date Well Work Commenced: 11/16/11				
Date Well Work Completed: 12/27/11	Cement plug		6,300' - 8,500'	1,027
Verbal Plugging: Gary Kennedy				
Date Permission granted on: 12/18/11 Partial Plu	gging Permit	issued 4/9/12		
Rotary Cable Rig 🗸				
Total Vertical Depth (ft): 8,262				
Total Measured Depth (ft): 12,528				
Fresh Water Depth (ft.): 1,500				
Salt Water Depth (ft.): 2,350				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 610				
Void(s) encountered (N/Y) Depth(s) N/A				
OPEN FLOW DATA (If more than two producing formation Producing formation Not Applicable Pay 2 Gas: Initial open flow MCF/d Oil: Initial open flow	zone depth (It)			
Final open flow MCF/d Final open flow	v Bb	1/d	NO.	CO ^S
Time of open flow between initial and final tests	Hours		WELVE OF	
Gas: Initial open flowMCF/d Oil: Initial open flowMCF/d Final open flowMCF/d Final open flowMCF/d Final open flowpsig (surface pressure) af Second producing formationPay zo: Gas: Initial open flowMCF/d Oil: Initial open flowMCF/d Final open flowMCF/d Final open flowmcF/d Final open flowpsig (surface pressure) af I certify under penalty of law that I have personally examined all the attachments and that, based on my inquiry of those individuals are considered.	terHou	rs	SECONO.	'n
Second producing formation Pay zo	ne depth (ft)		LEON P	5012 "Of "OLL
Gas: Initial open flowMCF/d Oil: Initial open fl	lowBl	pl∖q Q	16 B 10 E	ASU ROCHE
Final open flow MCF/d Final open flow	vBb	I/d	66.	"OLINGRON
Time of open flow between initial and final tests	Hours		, OS	A MO.
Static rock Pressurepsig (surface pressure) at	terriou	rs	Walle Seller	
I certify under penalty of law that I have personally examined	and am familiar	with the inforn	nation supplifited	on this document and
all the attachments and that, based on my inquiry of those indi- that the information is true, accurate, and complete.	viduais immedia	atery responsibl	e tor somming t	ne miormation i beneve
that the information is true, accurate, and complete.		_	1 /	
Clercht		_	7/2013	
Signature			Date	



Were core samples taken? YesN	O_X Were cuttings caugh	t during drilling? Yes X No
Were Electrical, Mechanical or Geophysics MWD Gamma Ray from 6,510' - 12,530'. (MWD - Meason	al logs recorded on this well? If yes, please lisured While Drilling)	Platform Express 2,258' - 6,500'
FRACTURING OR STIMULATING, I DETAILED GEOLOGICAL RECOR	PUT THE FOLLOWING: 1). DETAILS PHYSICAL CHANGE, ETC. 2). THE WEI D OF THE TOPS AND BOTTOMS OF LLBORE FROM SURFACE TO TOTAL I	LL LOG WHICH IS A SYSTEMATIO ' ALL FORMATIONS, INCLUDING
Perforated Intervals, Fracturing, or Stimula	ting:	
N/A		
		-
Plug Back Details Including Plug Type and	Depth(s): Set 8 1/2" open hole cement p	olugs: from 8 500' to 6 300' /183 bbls
		nage: non ejoco to ejoco i too bale
Formations Encountered: Surface:	Top Depth /	Bottom Depth
Ravencliff Sandstone	1,591	1,610
Lower Maxon Sandstone	1,922	1,979
Greenbrier Limestone	2,018	2,058
Big Lime Limestone	2,192	2,600
Injun Sandstone	2,600	2,638
Squaw Shale	2,638	2,660
Berea Sandstone	3,238	3,285
Gordon Sandstone	3,325	3,340
Rhinestreet Shale	7,670 TVD	7,756 TVD
Top Marcellus Shale	7,820 TVD	

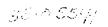
State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	5/16/2012	
API#:	47-033-05541	

TION: Elevation: 1243'	Quadrangle:	Shinnston 7.5'		
District: Eagle	County: Harr	ison		
	g. 25 Min	1. 00 Se	c.	
Longitude 3,570 Feet West of 80 De	g. 20 Mir	n. <u>00</u> Se	c.	
Company: XTO Energy, Inc.				
Address: PO Box 1008, Jane Lew, WV 26378	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
	20"	117'	117'	CTS - 27 BI
Agent: Gary Beall	13 3/8"	529'	529'	CTS - 424
Inspector: Tristan Jenkins	9 5/8"	2775'	2775'	957 sks
Date Permit Issued: 5/02/2011	5 1/2"	10727'	10727'	1260 sk
Date Well Work Commenced: 8/25/2011				
Date Well Work Completed: 4/26/2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 7,192				
Total Measured Depth (ft): 10,730				
Fresh Water Depth (ft.): 175', 250'				
Salt Water Depth (ft.): None Noted				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): None Noted				
Void(s) encountered (N/Y) Depth(s) N EN FLOW DATA (If more than two producing formation Marcellus Pages: Initial open flow Show MCF/d Oil: Initial open final open flow Show MCF/d Final open flow Show MCF/d Final open flow Static rock Pressure psig (surface pressure) Second producing formation Pay	y zone depth (ft) n flow I low B Hour after Ho zone depth (ft)	37170 - 7192 Bbl/d sbl/d rs urs		sheet)
Gas: Initial open flowMCF/d Oil: Initial open Final open flowMCF/d Final open f	low P	Bbl/d		
Time of open flow between initial and final tests	Hou	rs		
Static rock Pressurepsig (surface pressure)) afterHo	urs		

and elieve that the information is true, accurate, and complete.

Signature



Were core	samples taken?	YesNo_X	Were c	uttings caught during drilling	g? Yes X	No
Were Elec		l or Geophysical logs recorde				
	, , , , , , , , , , , , , , , , , , , ,					
FRACTU DETAIL	RING OR STINED GEOLOGIC	A BELOW PUT THE F MULATING, PHYSICAL C CAL RECORD OF THE BY THE WELLBORE FR	CHANGE, ETC. 2 TOPS AND BO). THE WELL LOG WHI FTOMS OF ALL FORM	CH IS A SYST	TEMATIC
Perforated	Intervals, Fractur	ing, or Stimulating:				
Stg 1 Marcellus	; 10,479'-10,657'; 72 sho	ots; Slick water frac; Avg treating 7046 ps	3i@82 bpm; 75,541#s 100	mesh; 247,645#s 30/50 mesh; 6,951 b	bl water, 698 bbl trea	ted water
Stg 2 Marcellus	; 10,220'-10,398'; 72 sho	ets; Slick water frac; Avg treating 7410 ps	3i@85 bpm; 75,764#s 100	mesh; 265,669#s 30/50 mesh; 7,568 b	bl water, 501 bbl trea	ted water
Stg 3 Marcellus	; 9,961'-10,139'; 72 shot	s; Slick water frac; Avg treating 7166 ps	i@84 bpm; 75,853#s 100	mesh; 265,376#s 30/50 mesh; 7,677 b	bl water, 701 bbl trea	ted water
Stg 4 Marcellus	; 9,702'-9,880'; 72 shots	; Slick water frac; Avg treating 6991 psi	@85 bpm; 73,667#s 100 i	mesh; 272,962#s 30/50 mesh; 7,934 bl	ol water, 674 bbl treat	ted water
Stg 5 Marcellus	; 9,443'-9,621'; 72 shots	; Slick water frac; Avg treating 6801 psi	@85 bpm; 75,766#s 100	mesh; 270,656#s 30/50 mesh; 7,739 bl	ol water, 851 bbl treat	ted water
Stg 6 Marcellus	; 9,184'-9,362'; 72 shots	; Slick water frac; Avg treating 6840 psi	@83 bpm; 74,641#s 100 n	nesh; 267,067#s 30/50 mesh; 7,479 bb	water, 1001 bbl trea	ted water
Plug Back	Details Including	g Plug Type and Depth(s):				
See add	litional page:	s				
Formation Surface:	ns Encountered:	· · · · · · · · · · · · · · · · · · ·	Top Depth		Bottom Dep	o <u>th</u>
Fill	0/127					
SS	127/164					
SH, SS	164/220	Hole Damp @ 175'				
SH	220/225					
SH, SS	225/268	2" Stream H2O @ 25	0'			
SS	268/395					
SH	395/410					
SS	410/420			·		
SH	420/470					
SS	470/540					
SH, SS	540/667					
SH	667/920					
SS, SH	920/1250				19*1	<u> 1900 - 100</u>
SH	1250/1732				, a	

See additional pages

Harbert East A 1H 47-033-05541

Additional Stages

Stg 7 Marcellus; 8,925'-9,103'; 72 shots; Slick water frac; Avg treating 6798 psi@85 bpm; 76,248#s 100 mesh; 268,813#s 30/50 mesh; 7,987 bbl water, 539 bbl treated water

Stg 8 Marcellus; 8,666'-8,844'; 72 shots; Slick water frac; Avg treating 6522 psi@84 bpm; 75,157#s 100 mesh; 270,671#s 30/50 mesh; 8,530 bbl water

Stg 9 Marcellus; 8,407'-8,585'; 72 shots; Slick water frac; Avg treating 6286 psi@84 bpm; 76,032#s 100 mesh; 266,625#s 30/50 mesh; 8,573 bbl water

Stg 10 Marcellus; 8,148'-8,326'; 72 shots; Slick water frac; Avg treating 6518 psi@85 bpm; 75,254#s 100 mesh; 268,900#s 30/50 mesh; 8,729 bbl water

Stg 11 Marcellus; 7,889'-8,067'; 72 shots; Slick water frac; Avg treating 6518 psi@85 bpm; 74,907#s 100 mesh; 267,598#s 30/50 mesh; 8,548 bbl water

Stg 12 Marcellus; 7,630'-7,808'; 72 shots; Slick water frac; Avg treating 6605 psi@85 bpm; 76,069#s 100 mesh; 266,198#s 30/50 mesh; 8,416 bbl water

Additional Formation Log

SS,SH	1732	2030
SH	2030	2485
SS,SH	2485	2674
SH	2674	2775
SLTST,SH	2775	2800
SLTST,SH,SS	2800	2860
SH, SLTST	2860	2980
SS,SLTST	2980	3010
SH,SLTST	3010	3070
SLTST,SH,SS	3070	3100
SH,SLTST	3100	3190
SH	3190	3220
SH,SLTST	3220	3280
SH	3280	3310
SLTST,SS,SH	3310	3370
SH	3370	3400
SH, SLTST,SS	3400	3430
SH,SLTST	3430	3490
SH,SS,SLTST	3490	3610
SH,SLTST	3610	3640
SLTST,SH,SS	3640	3790
SH,SLTST	3790	4060
SH,SS,SLTST	4060	4150
SH	4150	4180
SS,SLTST,SH	4180	4240
SH,SLTST,SS	4240	4360
SH	4360	4510
SH,SLTST	4510	4540
SS,SLTST,SH	4540	4570
SH,SLTST	4570	4810

Harbert East A 1H 47-033-05541 Additional Formation Log

SH	4810	4900
SH & SLTST	4900	4960
SH	4960	5020
SH & SLTST	5020	5050
SH	5050	5770
SH & SLTST	5770	5800
SH	5800	7100
LS, SH	7100	7190
SH & LS	7190	7200
SH	7200	7450
SH & LS	7450	7530
SH	7530	9980
SH, MRST	9980	10370
SH	10370	10730

Formation	Tops
BIG INJUN*	1533
SQUAW SAND*	1623
GANTZ SAND*	2003
50FT SAND*	2054
30FT SAND*	2146
GORDON SAND*	2219
LWR GORDON *	2330
4TH SAND*	2422
5TH SAND*	2490
UPPER BALLTOWN*	3323
BALLTOWN*	3409
LOWER BALLTOWN*	3500
GENESEO SHALE	6904
TULLY LIMESTONE	6943
HAMILTON SHALE	6997
MARCELLUS SHALE	7061
PURCELL LIMESTONE	7160
* Tons projected from offset log	due to air

^{*} Tops projected from offset log due to air drilling and therefore not logging this section

Tully Hamilton	7108 MD
	6943 TVD
Hamilton	7180 MD
	6997 TVD
Marcellus	7277 MD
	7061 TVD

State of West Virginia Division of Environmental Protection Section of Oil and Gas Well Operator's Report of Well Work

Farm name:

FULLERTON, TIMOTHY & SUSAN

Operator Well No.: HIRAM LYNCH 226

LOCATION:

Elevation:

1,298'

Quadrangle:

WOLF SUMMIT 7.5'

District:

TEN MILE

County: HARRISON

Latitude: Longitude:

4,560 Feet south of 6,105 Feet west of

39 Deg 17 Min 30 Sec. 80 Deg 27 Min 30 Sec.

Company Address:	HG Energ PO Box 5: Vienna, W	519	Casing & Tubing		Left in	Cement Fill U
Inspector:		Jenkins	ruonig	Drilling	Well	. Cu. Ft.
Date Permit Iss		05/31/2012	-			
Date Well Wor	k Commenced:	07/23/2012	-			
Date Well Wor			-			
Verbal Plugging	2:	09/11/2012	4			
Date Permission	Granted On:					
Rotary X C	1 1	Rig	1			· .
Total vertical D	epth (ft):	2934'	7"	483.75'	483.75'	500 sks
Total Measured	Depth (ft):	2952'	 			
Fresh Water Dep	oth (ft):	20', 80', 360'	4 ½"	2222		
Salt Water Depti	n (ft):	none	4 72"	2909'	2909'	200 sks
s Coal being mi	ned in ares (Y/N)?	No	 			
Coal Depths (ft):	x					
oid(s) encounter	red (Y/N) denth(a)	none : Y 440'-450'		pro	EWED	
mine liner	er installed over 7" installed 435'-455', prouted in w/ cemen	casing, depth		Office of	Oil & Ga	IS
OW DATA	nouted in W/ cemer	ıt.		DEC 1	.0 2012	

OPEN FLOW DATA	* Waterflood Producer
Final open flo	This well drilled directionally 81 "NW Edistance The Pay zone depth (ft) 2807.5' Fifth Sand Pay zone depth (ft) 2816'-2820.5' W * MCF/d Oil: Initial open flow * Bbl/d
Static rock pressure	flow between initial and final tests * Hours psig (surface pressure) after * Hours
Second producing form	nation
Gas: Initial open flo	w MCE/d Oil Tribial and depth (ft)
Final open flow	MCE/d On midal open flow Bbl/d
Time of open	flow between initial and first to the Bbl/d
omite fock pressure	psig (surface pressure) after Hours
ertify under penalty of law that I hav	e nersonally evamined and any factor and

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

11/19/12_ Date No

Were Y____ Electrical,

N Mechanical, _

N or Geophysical logs recorded on this well?

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

<u>Treatment:</u> Treated perfs 2806.5'-2807.5', 2809'-2813.5', & 2816'-2820.5' w/ 500 gals 15% HCL acid, 232 bbls cross linked gel, and 5,000# 20/40 sand.

Well Log: All depths are measured relative to KB (8' AGL).

Shale w/ sand streaks	0	-	440
void	440	-	450
Shale w/ sand streaks	450	-	974
Sand	974	-	1028
shale	1028	-	1156
sand	1156	-	1248
sand shale	1248	-	1259
sand	1259	-	1267
shale	1267	-	1383
sand	1383	-	1484
shale	1484	-	1641
sand	1641	-	1649
shale	1649	-	1748
sand	1748	-	1790
sanu shale	1790	-	1812
	1812	-	1874
Big Lime	1874	. -	1966
Big Injun	1966	-	2383
shale	2383	-	2497
sand	2497	-	2493
Silato	2493	-	2652
sand	2652	-	2806
shale Fifth Sand	2806	-	2822
I IIII Daire	2822	-	2952
shale	2952		
TĎ			
TD Logger	2944	KB	
T.DLogger T.DDriller	2952	KB	
T.DDriller			

State of West Virginia Division of Environmental Protection Section of Oil and Gas Well Operator's Report of Well Work

Farm name:

ENGLAND, WAYNE & BEATRICE

Operator Well No.: ALEX. STONESTREET 227

LOCATION:

Elevation:

1.036'

Ouadrangle:

WOLF SUMMIT 7.5'

District:

TEN MILE

County: HARRISON

Latitude:

5,980 Feet south of

39 Deg 17 Min 30 Se

Longitude:

8,145 Feet west of

80 Deg 27 Min 30 Sec.

HG Energy Company Casing & Used in Left in Cement Fill Up PO Box 5519 Address: **Tubing Drilling** Well Cu. Ft. Vienna, WV 26105 Tristan Jenkins Inspector: Date Permit Issued: 08/06/2012 Date Well Work Commenced: 08/24/2012 Date Well Work Completed: 09/11/2012 Verbal Plugging: Date Permission Granted On: 7" Rotary X Cable Rig 258' 258' Total vertical Depth (ft): 2660' Total Measured Depth (ft): 2660' 4 1/2" 150 sks Fresh Water Depth (ft): 60', 90' 2637.6 2637.6' Salt Water Depth (ft): none Is Coal being mined in ares (Y/N)? No Coal Depths (ft): x 205'-214' RECEIVED Void(s) encountered (Y/N) depth(s): Office of Oil & Gas NONE DEC 1.0 2012

OPEN FLOW DATA	* Waterflood Producer	WV De	partment of	2555!_2558!
Producing formation	Fifth S	ind Environme	ntal Protectio	2565.5'-2568.5'
Gas: Initial open flo	w *	MCF/d Oil: Initial ope	en flow	* Bbl/d
Final open flo		MCF/d Final ope	n flow	* Bbl/d
	n flow between initial	and final tests	* Hou	rs
Static rock pressure	*	psig (surface pressure)	after	* Hours
Second producing form	nation	Pay	zone depth (ft)	
Gas: Initial open flo	ow	MCF/d Oil: Initial ope	en flow	Bbl/d
Final open flo		MCF/d Final ope	n flow	Bbl/d
	flow between initial	and final tests	Hou	
Static rock pressure		psig (surface pressure)	after	Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

De Aldre

11/19/12 Date Word cold samples untoll.

Electrical,

N

Mechanical, _

N or Geophysical logs recorded on this well?

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

Treatment:

Were

Treated perfs 2555'-2558', 2559.5'-2561', 2563'-2564', & 2565.5'-2568.5' w/ 500 gals 15% HCL, 222 bbls cross linked gel, and 10,000# 20/40 sand.

Well Log:

All depths are measured relative to KB (8' AGL).

Shale w/ sand streaks		0	-	205
Coal		205	-	214
Shale w/ sand streaks		214	-	760
Sand		760	-	792
shale		792	-	932
sand		932	-	1012
shale		1012	-	1144
sand		1144	-	1183
shale		1183	-	1232
sand		1232	-	1246
shale		1246	-	1500
sand		1500	-	1519
shale	1	1519	-	1535
sand		1535	-	1558
shale		1558	-	1579
Big Lime		1579	-	1648
Big Injun		1648	-	1730
shale		1730	-	2148
sand		2148	-	2159
shale		2159	-	2250
sand		2250	-	2388
shale		2388	-	2554
Fifth Sand		2554	-	2570
shale		2570	-	2660
TD		2660		
T.DLogger		2650	KB	
T.DDriller		2660	KB	

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas

DATE: 11/12/2008 API#: 47-5101147

Well Operator's Report of Well Work

Farm name: ROBERT & ROSEMARY CO	NNER Op	erator Well No	.: <u>MC-52A</u>	
LOCATION: Elevation: 1106.82'	Qua	adrangle: <u>M</u>	AJORSVILLE,	WV-PA7.5'
District: WEBSTER				
Latitude:Feet South of	39 Beg	unty: <u>MARS</u>	fin 45 04	San
Longitude:Feet W	est of 20	Deg 37	Min 2	0.69 Sec.
Company: CNX Gas Company, LLC				<u>5.07</u> 500.
	Casing &	Used in	Left in well	Cement Fill Up
	Tubing	drilling		(# of Sacks)
Address: 2481 John Nash BLVD	9 5/8"	40'	40'	SANDED IN
Bluefield Wv 24701	7"	343.6'	343.6'	60 SKS
Agent: Les Arrington				
Inspector: Bill Hatfield				
Date Permit Issued: 6/18/2008				
Date Well Work Commenced: 7-31-2008				
Date Well Work Completed: 8/03/2008				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Depth (feet): 613'				
Fresh Water Depth (ft.): 300'				
Salt Water Depth (ft.): N/A				
	<u> </u>			
Is coal being mined in area (N/Y)? No	<u></u>	<u></u>		
Coal Depths (ft.):				
ODDILE OW DATE				
OPEN FLOW DATA	0.17 00.174	•	1 (0)	
Producing formation <u>Pittsburgh CO</u>				<u></u>
Gas: Initial open flow MCF/d	Oil: Initial op	en flow	Bbl/d	
Final open flowMCF/d I				
Time of open flow between initial and i				
Static rock Pressurepsig (surfa-	ce pressure) at	fterHo	urs	
Second producing formation Gas: Initial open flow MCF/d Oil:			اً. اُدِين مِي	
Second producing formation	Pay zor	ne depth (ft)		
Gas: Initial open flowMCF/d Oil:	Initial open fl	owE	PIYQ/	
	Final open flov	vB	bl/d\	* 3013
Time of open flow between initial and f	final tests	Hour	s ~c9.	1 \$ 5013
	ce pressure) af		urs FC5	
NOTE: ON BACK OF THIS FORM PUT THE			OF PERFORAT	TED
INTERVALS, FRACTURING OR STIMULATE	NG, PHYSICA	L CHANGE, 1	ETC. 2), THE W	ELL
LOG WHICH IS A SYSTEMATIC DETAILED		AL RECORD C		TIONS,
INCLUDING COAL ENCOUNTERED BY THE			EKARE	_
Gas Well DOE MC-52A (API No. 47-51				
Company, LLC. Refer to the attached it	information	for addition	al informatio	n.
\sqrt{R}				
Signed:				
By: <u>Luke Beebe Drilling Manager</u>		<u> </u>		
Date: 2/4/13		<u></u>		

ATTACHMENT A

Marshall County CBM Well No. MC-52A PG Drill Log API #47-5101147

Nanth	Dogoription
Depth	Description
0'-5'	TB-GL
5′-10′	CLAY
10'-120'	SHALE
120'-150'	SAND
150'-230'	SHALE
230'-240'	SAND
240'-310'	SHALE
310′-350′	SAND&SHALE TD
	,,



State of West Virginia Department of Environmental Protection Office of Oil and Gas

DATE: 11/10/200 API#: 47-5101169

Well Operator's Report of Well Work

Farm name: Strope, Craig D.			Ope	rator Well	No.:_	MC-114		
LOCATION: Elevation: 1	179.48'		Qua	drangle: _	Majo	rsville		
District: Webster			Con	ıntv•		Marchall	i	
Latitude:	Feet South of	39	Deg		Mir	30	Sec	
Longitude:	Feet W	est of		Deg		Min 1	in Iu	Saa
Company: CNX Gas Company	LLC						<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	566.
		Casi	ng &	Used in	1	Left in well	Cer	nent Fill Up
			ng					acks)
Address: 2481 John Nash BLVI)		3/8"			42'		Sanded in
Bluefield WV 24701		9	5/8"			378.2'	10	0 sks Class A
Agent: Les Arrington			7"			904.2'		0 sks Class A
Inspector: David Cowan								
Date Permit Issued:11/10/2008								
Date Well Work Commenced: 1	2/4/2008							
Date Well Work Completed: 12	/22/2008							
Verbal Plugging:							1	·
Date Permission granted on: 11	-10-2008							
Rotary Cable								
Total Depth (feet): 747'							1	
Fresh Water Depth (ft.): 280'								
							1	
Salt Water Depth (ft.): N/A							1	
							1	
Is coal being mined in area (N/Y)? N/A							
Coal Depths (ft.): 704.90', 787.28	3"							
OPEN FLOW DATA								
Producing formation _	Pittsburgh		_depth	(ft)7	87.28	; <u> </u>		
Gas: Initial open flow Final open flow	MCF/d	Oil: Ini	itial ope	n flow_		Bbl/d		
Final open flow	MCF/d]	Final op	en flow	,	Bb	√d		
Time of open flow be	tween initial and	final te	sts	F	lours			
Static rock Pressure	psig (surfa	ce press	sure) afi	ter	Hour	'S		
		_			_			
Second producing format	tion	•	Pav zon	e depth (f	(f			ALC:
Gas: Initial open flow	MCF/d Oil	: Initial	open fl	ow	Bh	1/d	134-1	
Final open flow		Final op	-		Bbl	أنسوف ويوسو		
Time of open flow bet					 Ioûrs		: :013	
Static rock Pressure					Hour	e	3	
		00 p1033	outo, un		_11041	e EEL	, A.	
NOTE: ON BACK OF THIS F	ORM PUT THE	FOLLO	WING:	1). DETAI	LS O			
INTERVALS, FRACTURING	OR STIMULATI	NG, PH	YSICAI	CHANGI	E, ET	C. 2). THE W	ELL	
LOG WHICH IS A SYSTEM	ATIC DETAILED	GEOL	OGICAL	RECORD	OF A	ALL FORMA	TIONS	,
INCLUDING COAL ENCOUN								
Gas Well DOE MC-114 (API No. 47-51	01169)	is a ho	rizontal	well	for CNX G	as	
Company, LLC. Refer to								
	0 71	78/	,					
Signed:	tu //.	7-7						
·	INTON	_						
Date: $(-26$	2010							

ATTACHMENT A

Marshall County CBM Well No. MC-114 Drill Log

API #47-5101169

Depth	Description			
GL-10'	FILL			
10'-25'	SHALE			
25'-28'	RR			
28'-45'	SHALE			
45'-105'	SAND			
105 '-195'	SHALE			
195'-210'	SAND			
210'-211'				
211'-285'	SHALE			
285'-360'	SAND			
360'-365'	RR			
365'-370'	SHALE			
370'-372'	∞ AL			
372'-420'	SHALE			
420'-425'	RR			
425'-460'	SAND			
460'-495'	SHALE			
495'-500'	RR			
500'-530'	SHALE			
530'-535'	WAL			
535'-680'	SHALE			
680'-704'	SAND			
704 '-708'	∞ AL			
708 '-787'	SAND			

787 '-792'	WAL
792'-830'	SAND
830'-855'	WAL
855'-858'	SAND
858'-900'	COAL
900'-930'	SAND
930'-1010'	SHALE & TD
	

DATE: 11/10/2008 API #: 47-5101170

State of West Virginia

Department of Environmental Protection Office of Oil and Gas



Well Operator	r's Report	of We	ll Work		4		u [[
Farm name: Strope, Craig D.		Oper	ator Well	No.:_	MC-114	A	_
LOCATION: Elevation:1155.25		_Quad	lrangle:	Major	rsville		
District: Webster		Cou	ntv:		Marshall	1	
Latitude:Feet South of	39	Deg.	57	Min.	_30	Sec.	
Longitude:Feet We	st of	80	Deg	32	Min.	30	_ Sec.
Company: CNX Gas Company, LLC	`	a 1	l 	1 -		1 -	
	Casing Tubing		Used in drilling		Left in well	1	ent Fill Up
Address: 2481 John Nash BLVD	9 5/8		dinning	-	41'		Sacks)
Bluefield WV 24701	7"			-	383.2'		sks Class A
Agent: Les Arrington						1 30	DAD CAUSS II
Inspector: David Cowan							· · · · · · · · · · · · · · · · · · ·
Date Permit Issued:11/10/2008							
Date Well Work Commenced: 12/5/2008							
Date Well Work Completed: 12/22/2008							
Verbal Plugging:							
Date Permission granted on: 11/10/2008							
Rotary Cable Rig							
Total Depth (feet): 440'							
Fresh Water Depth (ft.): 280'							
Salt Water Depth (ft.): N/A							
Is coal being mined in area (N/Y)? N/A			·				
Coal Depths (ft.): 704.90', 787.28'							
OPEN FLOW DATA		•					
Producing formation <u>Pittsburgh</u>	ن .	lamth .	(0) 70	07.70			
Gas: Initial open flow MCF/d (iepui ((11)/C	87.28_	DLI/J		
Final open flow MCE/d E	Jii. Illilia inol onon	d ober	I How	DL1/	מאמסי מאמסי		
Final open flow MCF/d Fi	mai open	HOW		_Boh	α .		
Time of open flow between initial and f	iliai tests	α\ - Φ	п	ours			
Static rock Pressure psig (surface	e pressur	e) and	er	Hours			:
Second producing formation	Des		a dameh (A		FEB]	, b _i)	
Second producing formation Gas: Initial open flow MCF/d Oil:							
• ———	inal open			Bbl/			
Time of open flow between initial and f				BDI/	u .		
Static rock Pressurepsig (surface							
Static rock ressurepsig (surface	e pressur	e) alk	ərı	Hours			
NOTE: ON BACK OF THIS FORM PUT THE FINTERVALS, FRACTURING OR STIMULATIN LOG WHICH IS A SYSTEMATIC DETAILED OF INCLUDING COAL ENCOUNTERED BY THE VERNE OF THE VERN	G, PHYS GEOLOG	ICAL	CHANGE	, ETC	. 2). THE W	ÆLL	
Gas Well DOE MC-114A (API No. 47-51			orizonta	l well	for CNX	Ges	
Company, LLC. Refer to the attached in	aformat						
Signed: July 11							

Date: 1-26-2010

ATTACHMENT A

Marshall County CBM Well No. MC-114A Drill Log API #47-5101170

Description
FILL
CLAY
SHALE
SHALE & SAND
SHALE
SAND
SHALE
RED ROCK
SAND
SHALE

Date December 4, 2009 API# 47-05101241

State of West Virginia **Division of Environmental Protection** Section of Oil and Gas Well Operator's Report of Well Work

Farm Name: Randy and Lisa McDowell B 10H Operator Well No.: 627054

LOCATION

Elevation:

1356'

Quadrangle: County:

Wileyville Marshall

District: Latitude: Longitude: Meade 1200 ft 4600ft

South of West of

00" 459 39° 40

80°

00"

Company: Chesapeake Appalachia, L.L.C.

P.O. Box 18496 OKC, OK 73154-0496

Agent: James E. Grey Inspector: Bill Hendershot Date Permit Issued: 05/20/2009

Date Well work commenced: 07/16/2009 Date Well Work completed: 08/06/2009

Verbal Plugging Permission

Granted on / /

Rotary ⊠ Cable Rig

Total Depth (ft): 11,385 TVD (ft):7,135

Fresh Water Depth (ft): N/A Salt Water Depth (ft.):NA

Is coal being mined in area (Yes \(\subseteq \) No \(\subsete \))

Coal Depths (ft):

Was this well logged and plugged back?

Yes___No_X if yes depth cement plug set __

Casing &	Used in	Left in	Cement Fill-Up
Tubing	Drilling	Well	Cu.Ft.
13 3/8	1,230'	1,230'	CTS
9 5/8	2,668'	2,668'	CTS
5 1/2	11,453'	11,453'	1,546 sks
			g in the state of
			Office of :

JUN 3 8 2012

Jack Ingrici omnember i rotection

Open Flow Data

1st Producing Formation

Pay Zone Depth 7,646 ft to 11,248 ft

Gas: Initial Open Flow Final Open Flow

2,111 Mcf/day

Oil: Initial Open Flow Final Open Flow

bbl/day N/A N/A bbl/day

N/A Mcf/day Time of Open Flow between Initial and Final Tests In

hours Line

Static Rock Pressure

3,924 psig after

hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Chesapeake Energy Well No.: 627054

Perforated Intervals

1 st Stage	Marcellus	10	holes from	10,926 ft to 11,248 ft
2 nd Stage	Marcellus	10	holes from	10526 ft to 10,848 ft
3 rd Stage	Marcellus	10	holes from	10,126 ft to 10,448 ft
4th Stage	Marcellus	10	holes from	9,646 ft to 10,048 ft
5 th Stage	Marcellus	10	holes from	9,246 ft to 9,568 ft
6 th Stage	Marcellus	10	holes from	8,846 ft to 9,168 ft
7 th Stage	Marcellus	10	holes from	8,446 ft to 8,768 ft
8th Stage	Marcellus	10	holes from	8,046 ft to 8,368 ft
9 th Stage	Marcellus	10	holes from	7,646 ft to 7,968 ft

Fracturing / Stimulation

1 st Stage	Ιτν	pe of Treatment Slickwate	r I			
. 0.250		Total Acid 5,000 Gal of 15% HCl			essure 6 560 nei	
	Average Rate 100 scf/min			Breakdown Pressure 6,569 psi		
	Total Fluid 16,925 bbl	Total Nitrogen 0 scf	- 1 717	TP 8,840 psi MTP 9,328 psi Total Sand 301,540 lb 100 mesh		
	10.01.11010.10,723.001	Total Philogoil U SCI			1 303,563 lb of 40/70	
	ISIP 5,564 psi	5 min 4,451 psi		Total Said	1 303,303 10 01 40/70	
2nd Stage	131r 3,304 psi	Type of Treatment Slick	unton			
Ziid Stage	Total Acid 2,500 Gal of 15			ledoum Dros	sure 5,885 psi	
	Average Rate 100 scf/min				MTP 9,250 psi	
	Total Fluid 12,151 bbl	Total Nitrogen 0 scf	AI		1 303,125 lb 100 mesh	
	Total Fluid 12,151 001	Total Millogen U Sci			1 320,220 lb of 40/70	
	1SID 4 025 noi	5 min 4,118 psi		Total Sail	1 320,220 10 01 40/70	
2rd Stage	ISIP 4,925 psi	Type of Treatment Slick				
3rd Stage	Total Acid 2,500 Gal of 15% HCl			Breakdown Pressure 7,033 psi		
	Average Rate 100 scf/min		Ai		i MTP 9,812 psi	
	Total Fluid 13,292 bbl				301,342 lb 100 mesh	
	101D 4 506!			TOTAL SAUG	1313,637 lb of 40/70	
ISIP 4,596 psi 5 min 3,743 psi						
4th Stage	T-4-1 A -14 0 500 C-1 -514	Type of Treatment Slick		kdovin Ducc	sure 5,946 psi	
	Total Acid 2,500 Gal of 1:					
	Average Rate 100 scf/min] A:		i MTP 9,542 psi	
	Total Fluid 12,081 bbl	Total Nitrogen 0 scf			1 304,836 lb 100 mesh	
	1077.5.100	5 : 0.000 :		Total Sand	1312,522 lb of 40/70	
	ISIP 5,188 psi	5 min 3,767 psi				
5th Stage		Type of Treatment Slick		J. J D	<i>5.7</i> 00 :	
	Total Acid 2,500 Gal of 15	M HCl			sure 5,798 psi	
	Average Rate 100 scf/min	or bpm	AIP		MTP 9,456 psi	
	Total Fluid 11,921 bbl				1301,088 lb 100 mesh	
					1313,950 lb of 40/70	
	ISIP 4,969 psi	5 min 3,935 psi				
6th Stage	Type of Treatment Slickw			ledana Duan	sure 6,545 psi	
	Total Acid 2,500 Gal of 15	% HCI				
	Average Rate 100 scf/min	or bpm	AIP		MTP 9,695 psi	
	Total Fluid 13,241 bbl			308,522 lb 100 mesh		
		5 1 0 405		Total Sand	1 253,348 lb of 40/70	
			5 min 3,485 psi			
		Type of Treatment Slickwater 6 HCl Breakdown Pressure 6,838 psi			mun 6 929 mai	
	Total Acid 2,500 Gal of 15	% HUI	Drea	O 125:	MTD 0 721 mg:	
	Average Rate 100 scf/min	or opm 🔼	IAIP	Total Card	MTP 8,721 psi 1300,048 lb 100 mesh	
	Total Fluid 11,795 bbl	Total Nitrogen 0 scf			309,897 lb of 40/70	
	1000 4006	6 2 022 3		DURG FRIOT	1 30 3,03 / 10 01 40//0	
	ISIP 4,736 psi	5 min 3,922 psi				
8th Stage		Type of Treatment Slickwate		ledous Dans	mun 6 545 mai	
	Total Acid 2,500 Gal of 15% HCl		Breakdown Pres			
	Average Rate 100 scf/min	or bpm	ALP		MTP 9,502 psi	
	Total Fluid 11,982 bbl	Total Nitrogen 0 scf			302,011 lb 100 mesh 308,492 lb of 40/70	
	1070 4 995	5 min 2 002 mai		TOTAL SAUG	1 300,472 10 01 40//0	
	ISIP 4,875 psi	5 min 3,982 psi	···otor			
9th Stage		Type of Treatment Slick	Water D-0-1	kdoum Deca	sure 6,300 psi	
	Total Acid 2,500 Gal of 15	% HCI			MTP 8,210 psi	
	Average Rate 100 scf/min	or bpm 🗵	AIP		1310,202 lb 100 mesh	
	Total Fluid 12,017 bbl	Total Nitrogen 0 scf			1301,434 lb of 40/70	
		5 2 026		TOTAL SAUG	1 30 1,434 10 01 40/70	
	ISIP 4,519 psi	5 min 3,825 psi				

Well Log

Well Log			
Formation Name	Тор	Bottom	Comments
Pittsburgh Coal	1141	1148	
Big Dunkard	1645	1681	
Freeport Coal	1700	1706	
Gas Sands	1714	1837	
Salt Sands	1851	2000	
Maxtons	2037	2235	
Big Lime	2235	2290	
Big Injun	2290	2556	
Gordon	3115	3124	From mudlog
Geneseo	6980	7002	
Tully	7002	7024	
Hamilton	7024	7111	
Marcellus	7111	NR	
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Signed:	De Orle
	CHESAPEAKE APPALACHIA, LLC
By:	TAL ODEN
Date:	1:-5-110